Sam Laing

☐ +353 833764694 | @ slaing155@gmail.com | 🔗 LinkedIn | 🐙 GitHub | 📍 Tuebingen, Germany

Personal Statement

I am pursuing a Master's degreee in machine learning at the University of Tuebingen. I hold a Bachelor's degree in Mathematics from Trinity College Dublin. My background in mathematics equips me with a rigorous analytical approach, which I actively apply in my role as a Machine Learning Engineer at a prominent Irish financial software company. In my professional role, I contribute to data-driven solutions and model deployment. I am actively pursuing opportunities to leverage my expertise in machine learning to drive innovation in professional projects while continuing to expand my knowledge and skills in the field.

Skills

Languages: Python, C++, SQL, R

Technologies: PyTorch, JAX, WandB, Pandas, FastAPI, Azure, SLURM, GraphX, CUDA, PostgreSQL, Git

Experience

SoftCo   Dublin, Ireland
Machine Learining Engineer   *May 2023 – Present, Part-time*
Business Analyst Intern   *May 2022 - September 2022*

- Designed and implemented a Bayesian module to automate invoice-to-purchase order matching, achieving in excess of 90% touchless processing. This solution enhanced sales by demonstrating high auto-match rates during customer onboarding, leading to increased customer acquisition and significant cost savings for clients.
- Developed and deployed a Random Forrest model as part of a product automating invoice coding to eliminate manual effort for customers. The project involved multi-label classification task with a large number of classes.
- Developed a JSON file parser and contributed to the construction of an Azure data pipeline for efficient data processing.
- Produced comprehensive documentation for machine learning models to ensure clarity and reproducibility and worked within Agile framework

University Of Tuebingen   Tuebingen, Germany
Researcher   *May 2024 - September 2024*

- Researched the effectiveness of soft label datasets in improving the calibration of deep neural networks, comparing their utility against regularization techniques such as MixUp, Manifold MixUp, CutMix, and Dropout in distance-aware networks like SNGP, DUQ, and Mahalanobis Distance.

Trinity College   Dublin, Ireland
Teaching Assistant   *Sep 2021 – Dec 2021 and Sep 2022 - December 2022*

- Corrected assignments and lead tutorials for the advanced Engineering Mathematics course offered at Trinity College Dublin. The topics included Fourier Analysis, Partial Differential Equations and Linear Programming.

Education

University of Tuebingen   Germany
MSc. in Machine Learning; ***Current Grade Average: 1.4 (equivalent 3.8 GPA USA)***   *Oct 2022 – Present*
Master's Thesis: Conducting research into adaptive optimizers for transformer foundation models. In particular, interested in weight decay dynamics, efficient learning and quantisation. Supervised by Antonio Orvieto

Trinity College Dublin   Ireland
BA Mathematics; ***First Class Honors***   *Sep 2018 – Jun 2022*
Bachelor Thesis: Applied category theoretical techniques (in particular simplicial homotopy theory) to prove several fundamental theorems of algebraic topology. Supervised by Dr Jack Kelly

Awards & Achievements

Trinity College Academic Gold Medal: Awarded to graduating students who achieved over a certain grade point average througout the four year degree.

William Hasslett Memorial Prize: Awarded to the St Andrew's College student with the best high school grades and attending Trinity College (in the Leaving Certificate Examinations) (2017)

References

Susan Spence, Co-founder SoftCo & Manverton.
Email: susan.spence@manverton.com